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TR/ASPROG/GATTP/2025

Test Booklet Series

TEST BOOKLET
GENERAL ABILITY TEST
& TECHNICAL PAPER

D

(Signature of the Candidate)

90.75
170

W – 49
R – 103

(Invigilator's Signature)

Time Allowed : 3 hours (Three hours) **Maximum Marks : 170**

INSTRUCTIONS

1. PLEASE CHECK THE TEST BOOKLET DOES NOT HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.
2. **ENCODE CLEARLY THE TEST BOOKLET SERIES A, B, C OR D AS THE CASE MAY BE IN THE APPROPRIATE PLACE IN THE ANSWER SHEET BY BLACK BALL POINT PEN ONLY.**
3. This Test Booklet contains 170 items (questions). Each question has four responses (answers). You will select the response which you want to mark on the Answer Sheet. In case you feel that there is more than one correct response, mark the response which you consider the most appropriate. In any case, choose ONLY ONE response for each item.
4. You have to mark all your responses ONLY on the separate Answer Sheet provided. See directions in the Answer Sheet.
5. All items carry equal marks.
6. Before you proceed to mark in the Answer Sheet the responses to various items in the Test Booklet, you have to fill in some particulars in the Answer Sheet as per instruction sent to you with your Admission Certificate.
7. After you have completed filling in responses in the Answer Sheet and the Examination is completed, you should handover the Answer Sheet to the Invigilator only. You are permitted to take away the Test Booklet.
8. Sheets for rough work are appended in the Test Booklet at the end.
9. **Penalty for wrong answers :**
   (a) There will be four alternatives for the answer to every question. For each question for which a wrong answer has been given by the candidate, **one-fourth** of the marks assigned to that question will be deducted as penalty.
   (b) If a candidate gives more than one answer, it will be treated as a **Wrong Answer** even if one of the given answers happens to be correct and there will be same penalty as above to that question.
   (c) If a question is left blank, i.e no answer is given by the candidate, there will be **no penalty** for that question.

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Four options are given against each of the following questions. Select the best/correct option from among the four options and encode in the Answer Sheet by using **Black Ball Point Pen** only as per example given below :

Example : The wheel in our National Flag has

(A) 20 spokes (B) 24 spokes

(C) 30 spokes (D) 25 spokes

Answer : (A) (B) (C) (D)

SECTION – A

1. Rearrange the following four sentences (i), (ii), (iii) and (iv) in the proper sequence to form a meaningful paragraph and choose the correct sequences as your answer :

(i) He was so busy with them that he did not get time to eat.

(ii) Thousands of people came to him and asked different types of questions.

(iii) No one cared to see if he had his food or rest that night.

(iv) Swami Vivekananda once stayed in a small village.

The proper sequence should be

(A) (ii), (iii), (iv), (i) (B) (iii), (ii), (i), (iv)

(C) (iv), (ii), (i), (iii) (D) (iv), (ii), (iii), (i)

2. Find out the part of the sentence which has error.

John has been working on the pilot project since two years.

(A) John has been (B) working on the

(C) pilot project since two years (D) No error

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3. Fill in the blank with the most appropriate word.

If a speech is full of pompous words, it is _____.

(A) verbose (B) bombastic

(C) grandiose (D) grandiloquent

4. Choose the correct alternative :

The interior of the concert hall is a _____ feast to the eye.

(A) veritable (B) hopeless

(C) delicious (D) visual

5. Select the word or phrase which is closest to the opposite in meaning of the underlined word. He <u>yielded</u> to temptation.

(A) Succumbed (B) Rescinded

(C) Skirted (D) Resisted

6. Choose the word nearest in meaning to the underlined part.

There is <u>abundant</u> supply of water for the crops.

(A) Considerable (B) Plentiful

(C) Adequate (D) Sufficient

7. Find out the meaning of the following idiom from the given alternative.

To be born with a silver spoon in one's mouth.

(A) to be born in a rich home

(B) to be born in a jeweller's home

(C) to be fed milk with a silver spoon

(D) to be a first born child

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8. Choose the correct alternative which best expresses the meaning of the underlined idiom / phrase in the sentence :

If you want to be happy, <u>cut your coat according to your cloth</u>.

(A) be honest in your dealings
(B) work according to your capacity
(C) live within your means
(D) don't be too ambitious

9. Fill in the blank with appropriate preposition :

He saw a wounded tiger while passing _____ the forest.

(A) from
(B) through
(C) along
(D) among

10. Arrange the words to form a meaningful sentence :

"Park / children / the / playing / are / in".

(A) Playing in the park children are.
(B) In the park children are playing
(C) Children are playing in the park.
(D) Are children playing the park in.

11. Choose the correct word to fill in the blank :

She is _____ intelligent to fail in the examination.

(A) very
(B) too
(C) so
(D) much

12. Identify the error in the sentence :

"Each of the boys were given a prize."

(A) each
(B) boys
(C) were
(D) prize

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- **Answer Question Nos. 13-15 on the basis of the following passage :**

WARNING : Antihistamines can cause drowsiness, so you should avoid driving or other operations that demand alertness, coordination, or dexterity. Do not use this product if you are intolerant to aspirin. Allergic reactions may occur in susceptible persons.

13. What is the meaning of the word "dexterity" as it is used in the passage ?

(A) Balance (B) Manual skill

(C) Manual strength (D) Gait

14. What is the meaning of the phrase "intolerant to aspirin" as it is used in the passage ?

(A) Unable to absorb aspirin without adverse effects

(B) Dislike of the effects of aspirin

(C) Unaffected by the healing effects of aspirin

(D) Needing a stronger medication than aspirin

15. What is the meaning of the word 'susceptible' as it is used in the passage ?

(A) Adaptable (B) Robust

(C) Malleable (D) Sensitive.

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A B

SECTION–B

16. In a certain code language, HEART be written as 260. How will DELHI be written in the same code language ?

(A) 190 (B) 180

(C) 210 (D) 360

17. Select the related word from the given alternatives

Ink : Pen :: Blood : ?

(A) Accident (B) Vein

(C) Doctor (D) None of these

18. Choose the correct alternative from the given options that will complete the series.

DFI, KMP, RTW, ___

(A) SUX (B) QSV

(C) YBW (D) YAD

19. Identify the next number in the series.

24, 51, 106, 217, ___

(A) 361 (B) 440

(C) 625 (D) 509

20. R and S are brothers, X is the sister of Y and X is the mother of R. Then how Y relates to S ?

(A) Brother (B) Father

(C) Mother (D) Uncle

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21. A and B are sisters. A is mother of D. B has a daughter C who is married to F. G is husband of A. How is C related to D ?

(A) Sister-in-law
(B) Niece
(C) Cousin
(D) Aunt

22. For the following words which would be a meaningful order ?

(i) Rain
(ii) Vaporisation
(iii) Water
(iv) Condensation
(v) Cloud

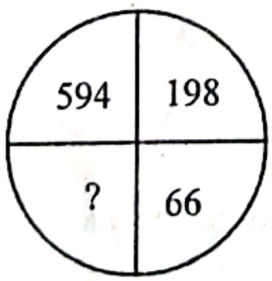
(A) (i), (iii), (ii), (iv), (v)
(B) (iii), (iv), (i), (ii), (v)
(C) (iii), (ii), (v), (iv), (i)
(D) (ii), (v), (i), (iv), (iii)

23. Select the number which does not belong to the given series.

37, 45, 49, 65, 79

(A) 37
(B) 49
(C) 45
(D) 79

24. Find the missing number in place of '?' in the given figure.



(A) 11
(B) 44
(C) 22
(D) None of these

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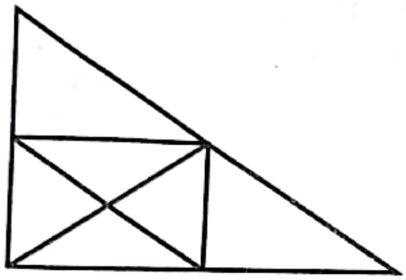
25. Five boys A, B, C, D and E are standing in a line. A is taller than E but shorter than D. B is shorter than E and C is tallest. Who is in the middle ?

(A) A
(B) D
(C) E
(D) C

26. How many triangles are there in the following figure ?



(A) 11
(B) 12
(C) 13
(D) More than 13

27. Find the sum of the common prime factors of 168 and 315.

(A) 3
(B) 6
(C) 10
(D) 12

28. If '@' stands for '–', '#' stands for '÷', '$' stands for '×' and '*' stands for '+', then which of the following options becomes correct ?

(A) 3@18# 6$4*13 = 13
(B) 3@18# 6$4*13 = 13.625
(C) 3@18# 6$4*13 = 13.5
(D) 3@18# 6$4*13 = 4

29. Select odd one out

(A) Eye
(B) Ear
(C) Nose
(D) Heart

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30. Find the highest value among the following

(A) $\sqrt{8}+\sqrt{5}$

(B) $\sqrt{6}+\sqrt{7}$

(C) $\sqrt{3}+\sqrt{10}$

(D) $\sqrt{2}+\sqrt{11}$.

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SECTION–C

31. Which one of the following States is not included under the name of 'Seven Sisters' of North East India ?

(A) Assam
(B) Meghalaya
(C) Arunachal Pradesh
(D) Sikkim

32. Where the Southernmost Point of India is located ?

(A) Port Blair
(B) Lakshadweep
(C) Kanyakumari
(D) Great Nicobar

33. The inauguration of E-Cabinet system in Agartala placed Tripura State at the _____ place in India in digital transformation of government operations.

(A) Second
(B) Fourth
(C) Third
(D) Sixth

34. Who is the first woman officer to be appointed as the Director General of the Central Industrial Security Force (CISF) ?

(A) Sanjukta Parashar
(B) Sowmya Sambasivan
(C) Nina Singh
(D) Vimal Mehra

35. The name of Israel's Air Defence System is _____.

(A) S 400 Defence System
(B) Iron Dome
(C) Pink Dome
(D) Wing Dome

36. Who is honoured with the Global Peace Award in Washington in November, 2024 ?

(A) Narendra Modiji
(B) Xi Jinping
(C) Malala Yousafzai
(D) Paul Allen

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37. Which State has recently added its 8th Tiger Reserve, that is Ratapani Wildlife Sanctuary in 2024 ?

(A) Arunachal Pradesh
(B) Madhya Pradesh
(C) Uttar Pradesh
(D) Andhra Pradesh

38. Which is the first OTT Platform dedicated to Meghalaya's culture, landscape and stories, launched in July, 2024 ?

(A) Hello Meghalaya
(B) Wats Meghalaya
(C) Namaste Meghalaya
(D) None of these

39. Which City is known as the Scotland of East ?

(A) Itanagar
(B) Aizwal
(C) Guwahati
(D) Shillong

40. Who was awarded as "Pradhan Mantri Rastriya Bal Puraskar" from Tripura in January, 2024 ?

(A) Jyotsna Akhtar
(B) Saiyan Mazumder
(C) Jessica Neyi Saring
(D) Linthoi Chanambam

41. Which is the highest waterfall in North East ?

(A) Nohkalikai Falls
(B) Lambok Falls
(C) Kakochang falls
(D) Kanchenjunga Falls

42. Where 'Uber' (a private transport provider) has introduced Asia's first water transport service ?

(A) Kerala
(B) Tamil Nadu
(C) Jammu & Kashmir
(D) West Bengal

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43. The Indian National Army (INA) hosted the Indian Flag for the first time in which place in Free India ?

(A) Mizoram
(B) Manipur
(C) Meghalaya
(D) Arunachal Pradesh

44. Arunachal Pradesh was also known as _____.

(A) NAAF
(B) NAFE
(C) NEFA
(D) None of these

45. Where was the first ever Digital India Future Skills Summit held ?

(A) New Delhi
(B) Bengaluru
(C) Guwahati
(D) Mumbai

46. ISRO and which Space Agency has signed an agreement for the launch of Gaganyaan Mission ?

(A) European Space Agency
(B) NASA
(C) Australian Space Agency
(D) Russian Federal Space Agency

47. The Non-Cooperation Movement under the leadership M. K. Gandhi was withdrawn in the year _____.

(A) 1920
(B) 1921
(C) 1922
(D) 1924

48. 'A Chronicle of Kings of Tripura' written in 15th Century under Dharma Manikya is known as _____.

(A) Rajmala
(B) Manikyamala
(C) Kishoremala
(D) Ramganamala

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49. How much is the difference between Indian Standard Time (IST) and Greenwich Mean Time (GMT) ?

(A) + $5^{1/2}$ hours

(B) + $4^{1/2}$ hours

(C) – $5^{1/2}$ hours

(D) – $4^{1/2}$ hours

50. The largest River that flows in Tripura is _____.

(A) Longai

(B) Manu

(C) Gomati

(D) Muhuri

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SECTION–D

51. Which of the following is responsible for allocating resources and controlling the execution of processes in an operating system ?

(A) Process Scheduler
(B) Memory Manager
(C) Resource Manager
(D) Control Unit

52. What does the acronym 'FIFO' stand for in process scheduling ?

(A) First Input, First Output
(B) First In, First Out
(C) First Inside, First Out
(D) Fast Input, Fast Output

53. Which of the following is a process synchronization technique in an operating system ?

(A) Semaphore
(B) Interrupt
(C) Multithreading
(D) Paging

54. Which of the following is NOT a type of operating system process ?

(A) User process
(B) System process
(C) Kernel process
(D) Application process

55. What is a "deadlock" in an operating system ?

(A) A system crash
(B) A process waiting for resources forever
(C) A memory leak
(D) A security breach

56. Which of the following methods is used to prevent deadlock in an operating system ?

(A) Resource allocation graph
(B) Locking mechanisms
(C) Deadlock detection algorithms
(D) All of the above

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57. Which of the following is an example of a real-time operating system ?

(A) Windows 10 (B) UNIX

(C) QNX (D) Linux

58. Which of the following is the correct definition of an algorithm ?

(A) A set of instructions to perform a task

(B) A sequence of random steps

(C) A type of data structure

(D) A program written in a high-level language

59. Which of the following is NOT a characteristic of a good algorithm ?

(A) Finiteness (B) Precision

(C) Ambiguity (D) Efficiency

60. The time complexity of an algorithm is determined by

(A) The number of inputs (B) The number of operations executed

(C) The type of hardware (D) The type of programming language used

61. Which of the following is an example of a divide-and-conquer algorithm ?

(A) Bubble sort (B) Quick sort

(C) Insertion sort (D) Linear search

62. Which of the following is the correct asymptotic notation for the worst-case time complexity of Merge Sort ?

(A) O (n) (B) O (n log n)

(C) O (n ^ 2) (D) O (log n)

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63. Which of the following searching algorithms has the best time complexity in the worst case for an unsorted array ?

(A) Binary Search
(B) Linear Search
(C) Jump Search
(D) Exponential Search

64. What is the space complexity of the Merge Sort algorithm ?

(A) O (1)
(B) O (n)
(C) O (log n)
(D) O (n log n)

65. What is the time complexity of the best-case scenario for Quick Sort ?

(A) O (n)
(B) O (n log n)
(C) O (n ^ 2)
(D) O (log n)

66. Which of the following is a greedy algorithm ?

(A) Dijkstra's algorithm
(B) Merge Sort
(C) Quick Sort
(D) Prim's algorithm

67. What does the term "Big-O notation" describe ?

(A) The exact running time of an algorithm
(B) The space required by an algorithm
(C) The upper bound of an algorithm's time complexity
(D) The number of operations executed by an algorithm

68. Which of the following is NOT a linear data structure ?

(A) Array
(B) Linked List
(C) Stack
(D) Tree

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69. In a doubly linked list, each node contains :

(A) Data and a pointer to the next node only

(B) Data and a pointer to the previous node only

(C) Data, a pointer to the next node, and a pointer to the previous node

(D) Only data

70. Which of the following operations is not possible in a stack ?

(A) Push

(B) Pop

(C) Peek

(D) Delete from the middle

71. Which of the following data structures is used in the implementation of recursion ?

(A) Queue

(B) Stack

(C) Linked List

(D) Array

72. What is the time complexity of accessing an element in an array by its index ?

(A) O (1)

(B) O (log n)

(C) O (n)

(D) O (n ^ 2)

73. In a binary tree, the number of edges is

(A) One less than the number of nodes

(B) The same as the number of nodes

(C) One more than the number of nodes

(D) Equal to the height of the tree

74. What is the time complexity for searching an element in a binary search tree (BST) in worst case ?

(A) O (l)

(B) O (log n)

(C) O (n)

(D) O (n ^ 2)

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75. Which of the following is true about a circular queue ?

(A) It uses a linear data structure for storing elements

(B) It is based on a linked list

(C) It does not allow for the queue to be full

(D) The last position is connected to the first position

76. What is the space complexity of an array of size 'n' ?

(A) O (l)

(B) O (n)

(C) O (n ^ 2)

(D) O (log n)

77. Which of the following is NOT a type of binary tree ?

(A) Complete binary tree

(B) Full binary tree

(C) Balanced binary tree

(D) Circular binary tree

78. Which of the following is NOT a feature of Object-Oriented Programming (OOP) ?

(A) Inheritance

(B) Polymorphism

(C) Encapsulation

(D) Compilation

79. In C++, which operator is used to access members of a class using a pointer ?

(A) .

(B) ->

(C) ::

(D) &

80. Which of the following is true about constructors in C++ ?

(A) Constructors must return a value

(B) Constructors are called automatically when an object is created

(C) A constructor must take parameters

(D) Constructors can have any name

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81. In Java, which of the following is the correct way to create an object of a class Person ?

(A) Person obj = new Person();

(B) new Person obj = new Person ();

(C) Person obj = new();

(D) Person new obj = Person ();

82. Which keyword is used to inherit a class in Java ?

(A) extends

(B) inherits

(C) implements

(D) extends implements

83. What is the purpose of the super keyword in Java ?

(A) It refers to the current instance of the class

(B) It refers to the superclass (parent class)

(C) It refers to a static method

(D) It refers to an object of the same class

84. Which of the following methods cannot be overridden in Java ?

(A) Static methods

(B) Instance methods

(C) Abstract methods

(D) Final methods

85. Which of the following is a correct syntax for declaring a constructor in C++ ?

(A) constructor ClassName();

(B) ClassName();

(C) void ClassName();

(D) ClassName() {}

86. Which of the following is NOT an access modifier in Java ?

(A) public

(B) private

(C) protected

(D) accessible

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87. In C++, what does the delete operator do ?

(A) Deletes a member of a class

(B) Frees dynamically allocated memory

(C) Deletes the class definition

(D) Deallocates an object

88. Which of the following is a phase in the Software Development Life Cycle (SDLC) ?

(A) Design

(B) Coding

(C) Testing

(D) All of these

89. In which SDLC model is feedback from the customer incorporated during the development process ?

(A) Waterfall Model

(B) V-Model

(C) Spiral Model

(D) Iterative Model

90. Which of the following is NOT a characteristic of software ?

(A) Software is intangible

(B) Software is easy to modify

(C) Software is not prone to wear and tear

(D) Software has limited scalability

91. Which of the following is a fundamental principle of Agile methodology ?

(A) Detailed documentation is prioritized over working software

(B) Customer collaboration over contract negotiation

(C) Following a fixed plan over responding to changes

(D) Working software is not delivered until after the final version

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92. In the context of software engineering, what does the term "modularity" refer to ?

(A) Combining all modules into one unit

(B) Breaking the software into smaller, manageable components or modules

(C) The process of debugging the software

(D) Reducing the cost of software

93. What is the main purpose of software testing ?

(A) To check if the software works as per the requirements

(B) To enhance the performance of the software

(C) To improve the user interface

(D) To document all functionalities

94. Which of the following is a major disadvantage of the Waterfall model?

(A) It is easy to manage

(B) It is suitable for smaller projects

(C) It is difficult to go back to any stage once it's completed

(D) It allows changes at any time during development

95. Which software process model uses an iterative approach with incremental builds ?

(A) V-Model

(B) Spiral Model

(C) Waterfall Model

(D) Agile Model

96. Which of the following is true about functional requirements ?

(A) They specify what the system should do

(B) They specify how the system should be built

(C) They describe the non-functional aspects of the system

(D) They only focus on performance criteria

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97. In Software Engineering, what does "coupling" refer to ?

(A) The degree to which one software component is dependent on another

(B) The integration of various programming languages

(C) The physical connection between hardware components

(D) The division of software into smaller units

98. Which of the following is the most common type of computer network ?

(A) MAN (Metropolitan Area Network)

(B) LAN (Local Area Network)

(C) WAN (Wide Area Network)

(D) PAN (Personal Area Network)

99. Which device is used to connect two or more networks and forward packets between them ?

(A) Router

(B) Switch

(C) Hub

(D) Modem

100. In the OSI model, which layer is responsible for error detection and correction ?

(A) Transport Layer

(B) Network Layer

(C) Data Link Layer

(D) Physical Layer

101. Which protocol is used for sending emails ?

(A) HTTP

(B) FTP

(C) SMTP

(D) POP3

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102. Which of the following is the function of a switch in a network ?

(A) It amplifies signals to prevent attenuation

(B) It connects different types of networks

(C) It forwards data packets based on MAC addresses

(D) It translates IP addresses to MAC addresses

103. Which of the following is the main difference between a hub and a switch ?

(A) A switch operates at the Network Layer, while a hub operates at the Data Link Layer

(B) A hub sends data to all devices, whereas a switch sends data to the specific device

(C) A hub can filter traffic, but a switch cannot

(D) A switch is more expensive than a hub due to its functionality

104. What is the maximum data transfer rate of Gigabit Ethernet ?

(A) 100 Mbps

(B) 1 Gbps

(C) 10 Gbps

(D) 1 Tbps

105. Which of the following IP addresses is a loopback address ?

(A) 127.0.0.1

(B) 192.168.1.1

(C) 10.0.0.1

(D) 255.255.255.255

106. Which type of network topology has all devices connected to a central device ?

(A) Ring topology

(B) Bus topology

(C) Star topology

(D) Mesh topology

107. What does the term 'IP Address' stand for ?

(A) Internet Protocol Address

(B) Internet Processor Address

(C) Internal Protocol Address

(D) Internet Path Address

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108. Which of the following is the main function of a DBMS ?

(A) Data storage
(B) Data manipulation
(C) Data retrieval
(D) All of these

109. What is the main purpose of the SQL SELECT statement ?

(A) To insert data into a table
(B) To retrieve data from a table
(C) To delete data from a table
(D) To modify data in a table

110. Which of the following is a type of database model ?

(A) Hierarchical model
(B) Relational model
(C) Object-oriented model
(D) All of the above

111. Which of the following is the full form of SQL ?

(A) Structured Query Language
(B) Simple Query Language
(C) Structured Question Language
(D) Simple Question Language

112. In a relational database, what is a "primary key" ?

(A) A key that uniquely identifies each record in a table
(B) A key used to link two tables together
(C) A key that can be null
(D) A key that stores primary data

113. Which of the following statements about normalization is correct ?

(A) Normalization removes redundant data in a database
(B) Normalization is used to add more redundancy in the database
(C) Normalization improves the performance of SQL queries
(D) Normalization is not needed in DBMS

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114. Which of the following is a type of relationship in a relational database ?

(A) One-to-one (B) One-to-many

(C) Many-to-many (D) All of the above

115. What is a "foreign key" in a relational database ?

(A) A key that uniquely identifies a record in a table

(B) A key that links two tables together

(C) A key used to store multiple values

(D) A key that prevents null values

116. What does the term "ACID" stand for in the context of a database ?

(A) Accuracy, Consistency, Integrity, Data

(B) Atomicity, Consistency, Isolation, Durability

(C) Authorization, Consistency, Integrity, Durability

(D) Authentication, Consistency, Isolation, Data

117. Which of the following is NOT a type of SQL command ?

(A) Data Definition Language (DDL)

(B) Data Manipulation Language (DML)

(C) Data Query Language (DQL)

(D) Data Extraction Language (DEL)

118. Which of the following is the correct HTML tag for inserting a line break ?

(A)
 (B) <break>

(C) <lb> (D) <hr>

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119. Which HTML tag is used to define an internal style sheet ?

(A) <style>

(B) <css>

(C) <link>

(D) <script>

120. What is the correct syntax for referring to an external script in HTML ?

(A) <script src="script.js">

(B) <script ref="script.js">

(C) <script href="script.js">

(D) <script link="script.js">

121. Which of the following is a valid CSS selector to select all <p> elements ?

(A) p {}

(B) #p {}

(C) .p {}

(D) <p> {}

122. What is the purpose of the tag in HTML ?

(A) It is used to define sections of a document

(B) It is used to insert images

(C) It is used to create hyperlinks

(D) It is used for creating lists

123. Which of the following is used to apply styles to HTML elements ?

(A) JavaScript

(B) CSS

(C) HTML

(D) PHP

124. Which of the following is true about a URL ?

(A) It is a Uniform Resource Locator

(B) It is used to identify the source code of a website

(C) It points to a specific IP address on the internet

(D) It is a standard format for storing files on a server

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125. What does HTTP stand for ?

(A) Hypertext Transfer Protocol (B) Hyper Transfer Protocol

(C) High Transfer Text Protocol (D) Hypertext Tracking Protocol

126. Which of the following is an example of a client-side scripting language ?

(A) PHP (B) JavaScript

(C) Python (D) Ruby

127. What is the purpose of the <form> tag in HTML ?

(A) It is used to collect user input

(B) It is used to insert images

(C) It is used for creating sections

(D) It is used for creating links

128. Which of the following is the best definition of "Cyber Security" ?

(A) Protecting physical devices from unauthorized access

(B) Protecting data and networks from malicious attacks

(C) Protecting from power failure

(D) Managing network traffic

129. What is the primary function of a firewall in a computer network ?

(A) To prevent data encryption

(B) To block unauthorized access and traffic

(C) To increase data speed

(D) To create secure passwords

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130. Which of the following is a common type of cyber attack that uses multiple compromised devices to overwhelm a target ?

(A) Phishing

(B) Distributed Denial of Service (DDoS)

(C) SQL Injection

(D) Ransomware

131. What does "Phishing" refer to in the context of cyber security ?

(A) A form of hacking

(B) A technique used to deceive people into revealing personal information

(C) A process of protecting data with encryption

(D) A type of software firewall

132. Which of the following is a method of encrypting data to protect it from unauthorized access ?

(A) Decryption

(B) Password hashing

(C) Symmetric encryption

(D) Both (B) and (C)

133. What is the main advantage of blockchain technology ?

(A) Faster transaction speeds

(B) Centralized control

(C) Decentralized and immutable ledger

(D) Lower electricity consumption

134. Which of the following is a key feature of Artificial Intelligence (AI) ?

(A) Automation of tasks requiring human intelligence

(B) Predicting future events with absolute certainty

(C) Enhancing hardware performance

(D) Storing and managing large data sets

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135. Which of the following technologies is used to create immersive digital environments ?

(A) Augmented Reality (AR) (B) Virtual Reality (VR)

(C) Internet of Things (IoT) (D) Blockchain

136. Which technology is commonly used in autonomous vehicles to detect and avoid obstacles ?

(A) Quantum Computing

(B) LiDAR (Light Detection and Ranging)

(C) Artificial Intelligence

(D) Augmented Reality

137. What does 5G technology provide over its predecessor (4G) ?

(A) Lower latency and higher speeds

(B) Less data encryption

(C) Reduced coverage area

(D) Slower data transfer

138. Which of the following is an example of a relation ?

(A) Set of all integers (B) Set of all real numbers

(C) Set of ordered pairs (D) Set of all even numbers

139. Which of the following is the principle of inclusion-exclusion used for ?

(A) Finding the size of the union of two sets

(B) Finding the difference between two sets

(C) Finding the symmetric difference between two sets

(D) Finding the complement of a set

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140. Which of the following is NOT a valid graph representation in Discrete Mathematics ?

(A) Tree

(B) Directed Acyclic Graph (DAG)

(C) Complete graph

(D) Continuous graph

141. What is the probability of rolling an even number on a fair six-sided die ?

(A) 1/6

(B) 1/2

(C) 2/3

(D) 1/3

142. If two events A and B are independent, what is $P(A \cap B)$?

(A) $P(A) + P(B)$

(B) $P(A) \times P(B)$

(C) $P(A) - P(B)$

(D) $P(A) / P(B)$

143. The Mean of a dataset is the

(A) Middle value when arranged in ascending order

(B) Most frequent value

(C) Average of all values

(D) Range of the values

144. The variance of a dataset is

(A) The square root of the Mean

(B) The square of the Standard deviation

(C) The average of the squared differences from the Mean

(D) The average of the data points

145. Which of the following Measures of central tendency is affected the most by extreme values ?

(A) Mean

(B) Median

(C) Mode

(D) Range

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146. Which of the following is NOT a type of probability distribution ?

(A) Normal distribution (B) Poisson distribution

(C) Exponential distribution (D) Linear distribution

147. The Coefficient of variation is calculated as

(A) (Mean / Standard deviation) × 100

(B) (Standard deviation / Mean) × 100

(C) (Standard deviation / Variance) × 100

(D) (Variance / Standard deviation) × 100

148. Which logic gate has the output '1' only when both inputs are the same ?

(A) AND gate (B) OR gate

(C) XOR gate (D) XNOR gate

149. What is the Boolean expression for the AND gate ?

(A) A + B (B) A · B

(C) A' + B' (D) A' · B'

150. Which of the following is an universal gate ?

(A) AND gate (B) OR gate

(C) NOR gate (D) XOR gate

151. The output of an OR gate is 1 if :

(A) All inputs are 0 (B) At least one input is 1

(C) Only one input is 0 (D) All inputs are 1

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152. The sum output of a full adder is given by which Boolean expression ?

(A) A + B

(B) $A \oplus B$

(C) A · B

(D) $(A \oplus B) \oplus C_in$

153. Which register in the 8085 microprocessor holds the address of the memory location for data transfer ?

(A) Accumulator

(B) Instruction Register

(C) Address Register

(D) Program Counter

154. Which of the following is true about the 8085 microprocessors ?

(A) It is a 16-bits microprocessor

(B) It has 5 registers

(C) It supports direct addressing mode

(D) It has 8-bits data bus

155. Which of the following instructions is used to transfer data in the 8085 microprocessors ?

(A) ADD

(B) MOV

(C) SUB

(D) None of these

156. Which of the following is an addressing mode in 8085 ?

(A) Immediate addressing mode

(B) Index addressing mode

(C) Register-indirect addressing mode

(D) Segment addressing mode

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157. What is the size of the program counter in the 8085 microprocessors ?

(A) 8 bits (B) 16 bits

(C) 32 bits (D) 64 bits

158. Which of the following microprocessors is an 8-bit processor ?

(A) 8086 (B) 8051

(C) 8085 (D) 80286

159. In the 8085 microprocessor, which register is used to store the result of an arithmetic operation ?

(A) Stack pointer (B) Program counter

(C) Accumulator (D) Data register

160. What is the size of the address bus in the 8085 microprocessor ?

(A) 8 bits (B) 16 bits

(C) 32 bits (D) 64 bits

161. Which of the following is a key feature of the 8086 microprocessor ?

(A) 8-bits data bus (B) 16-bits data bus

(C) 32-bits data bus (D) 64-bits data bus

162. What is the function of the Stack Pointer (SP) in the 8085 microprocessor ?

(A) Points to the next instruction to be executed

(B) Points to the top of the stack in memory

(C) Holds the address of the data to be fetched

(D) Holds the data to be processed

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163. Which of the following is NOT a component of the CPU ?

(A) Arithmetic and Logic Unit (ALU)

(B) Control Unit (CU)

(C) Memory Unit

(D) Hard Disk Drive

164. What does the 'Bus' in computer organization refer to ?

(A) A software interface for connecting devices

(B) A physical pathway for data transfer between components

(C) The central processing unit

(D) A peripheral device

165. Which of the following is responsible for fetching instructions from memory in the CPU ?

(A) Control Unit (CU)

(B) Memory Unit

(C) ALU

(D) Register

166. In the memory hierarchy, which of the following has the highest access speed ?

(A) Cache memory

(B) RAM

(C) Hard Disk

(D) Magnetic tape

167. Which of the following is the main function of the Arithmetic Logic Unit (ALU) ?

(A) Control the sequence of operations

(B) Perform the arithmetic and logical operations

(C) Fetch the data from memory

(D) Manage the data input and output

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168. Which of the following is NOT a function of an operating system ?

(A) Memory management (B) Task scheduling

(C) Data encryption (D) File management

169. Which of the following is the primary purpose of an operating system ?

(A) Manage hardware resources (B) Provide network security

(C) Execute applications (D) Manage user accounts

170. Which of the following is an example of a time-sharing operating system ?

(A) MS-DOS (B) Windows 10

(C) Macos (D) UNIX.

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